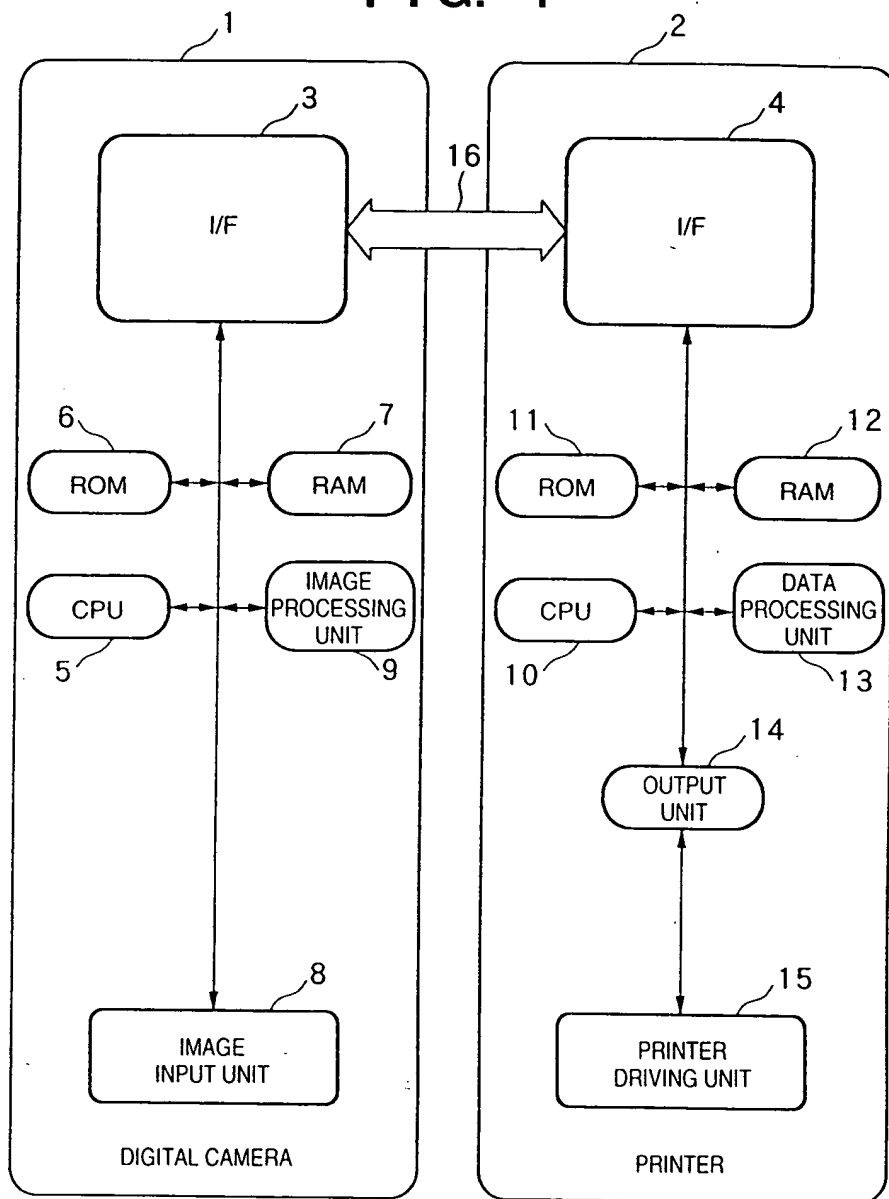
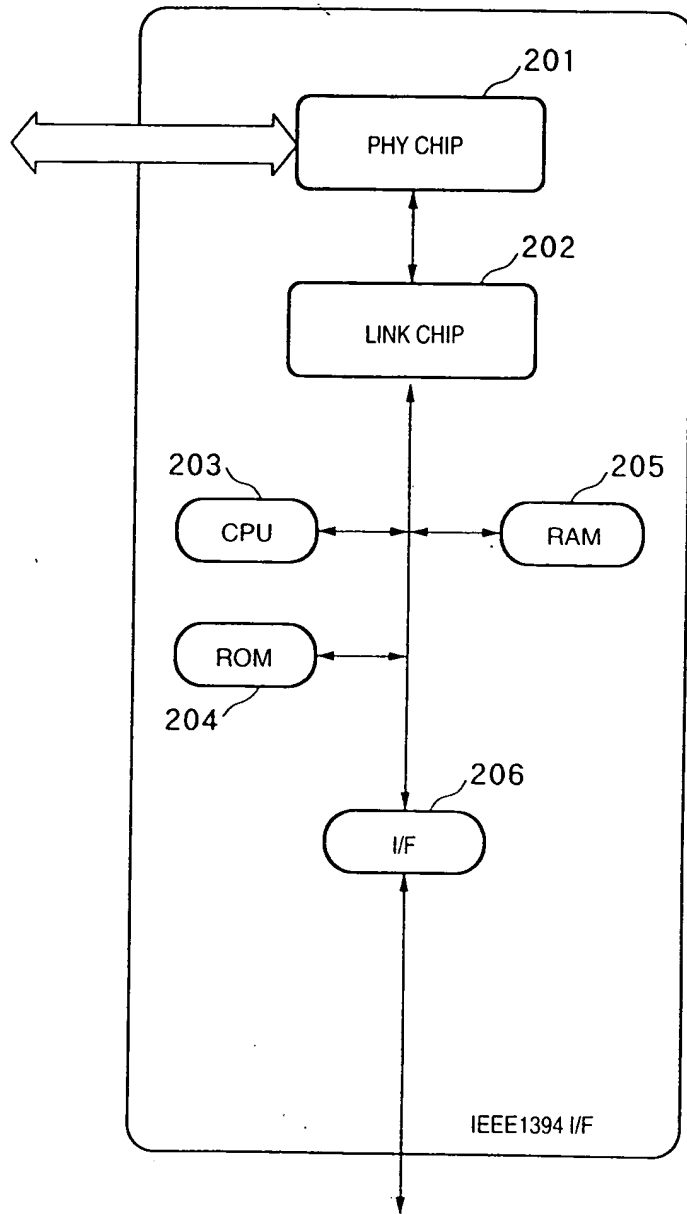


FIG. 1



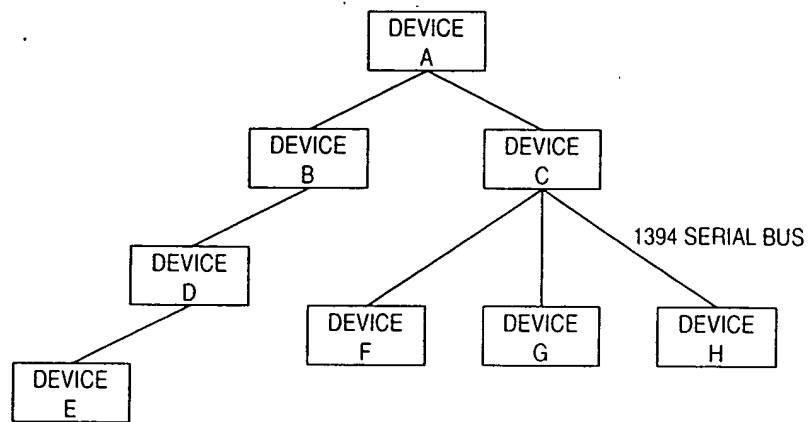
001E80" 66605960

FIG. 2



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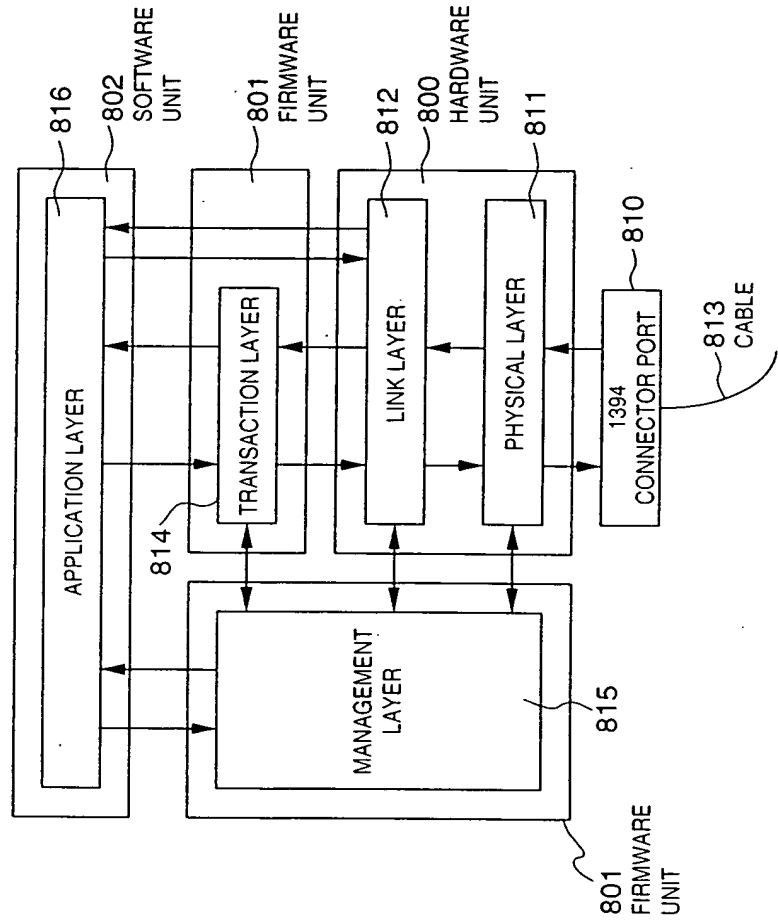
FIG. 3



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FIG. 4



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FIG. 5

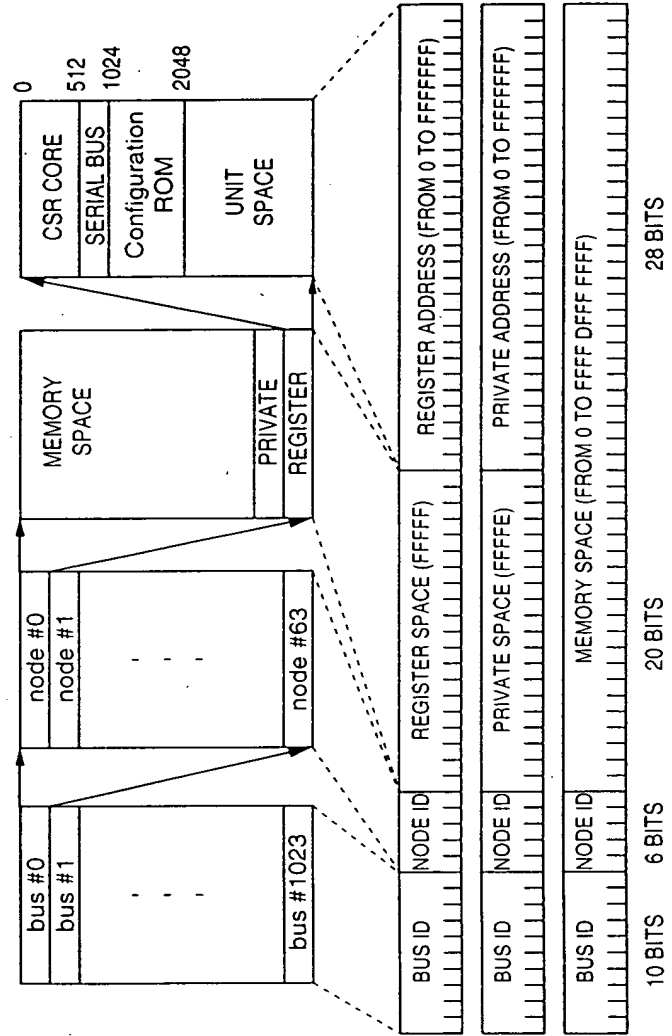
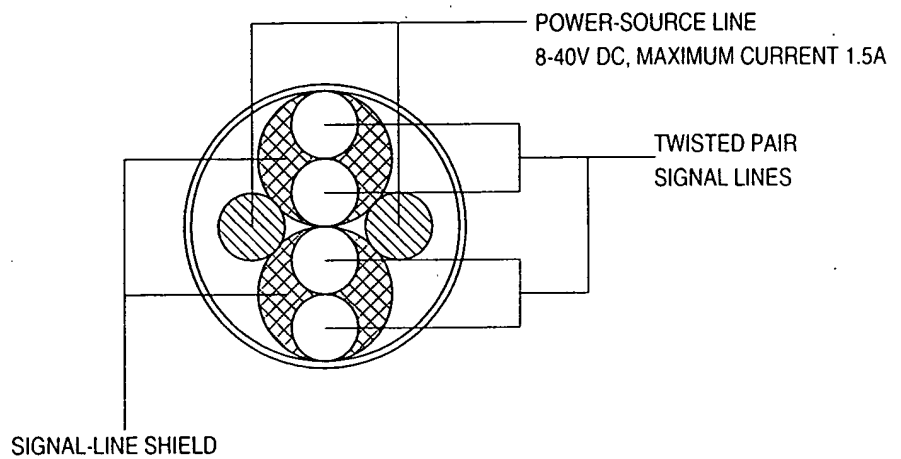


FIG. 6

CROSS-SECTION OF CABLE



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FIG. 7

CLOCK : EXCLUSIVE-OR SIGNAL BETWEEN Data AND Strobe

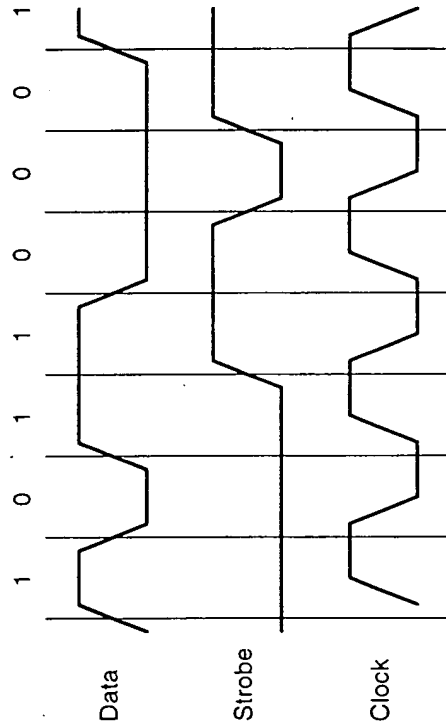
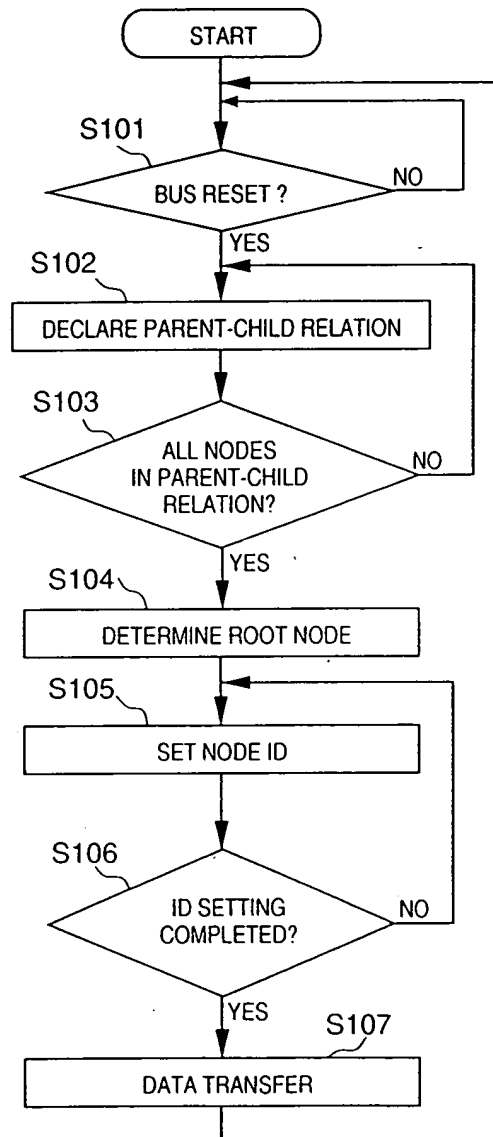


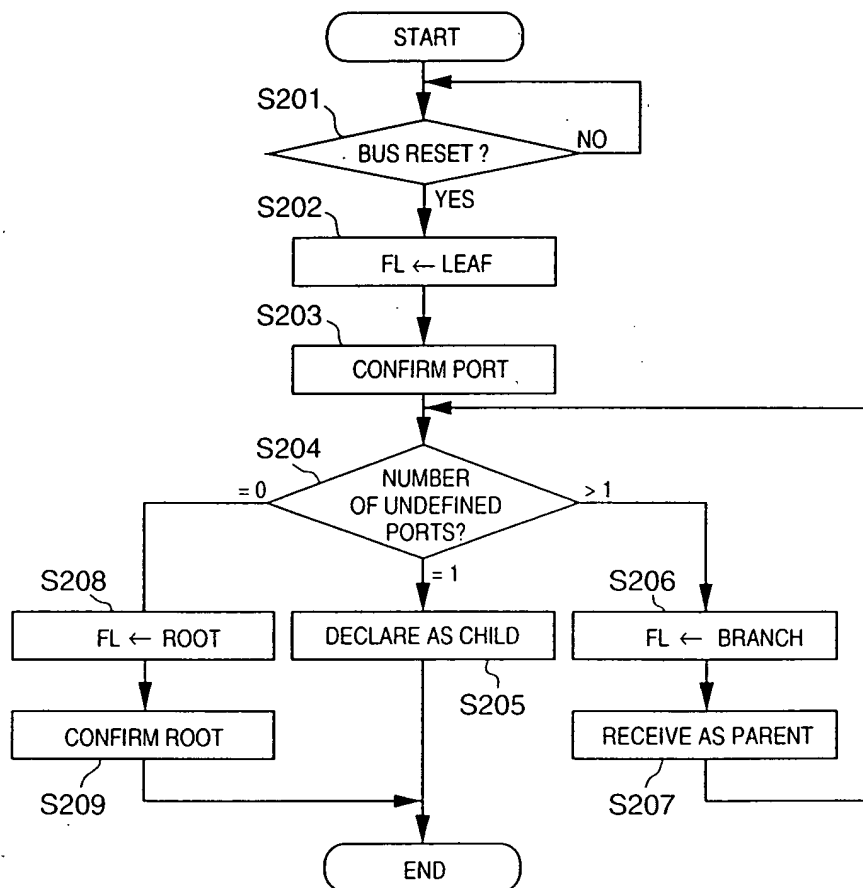
FIG. 8



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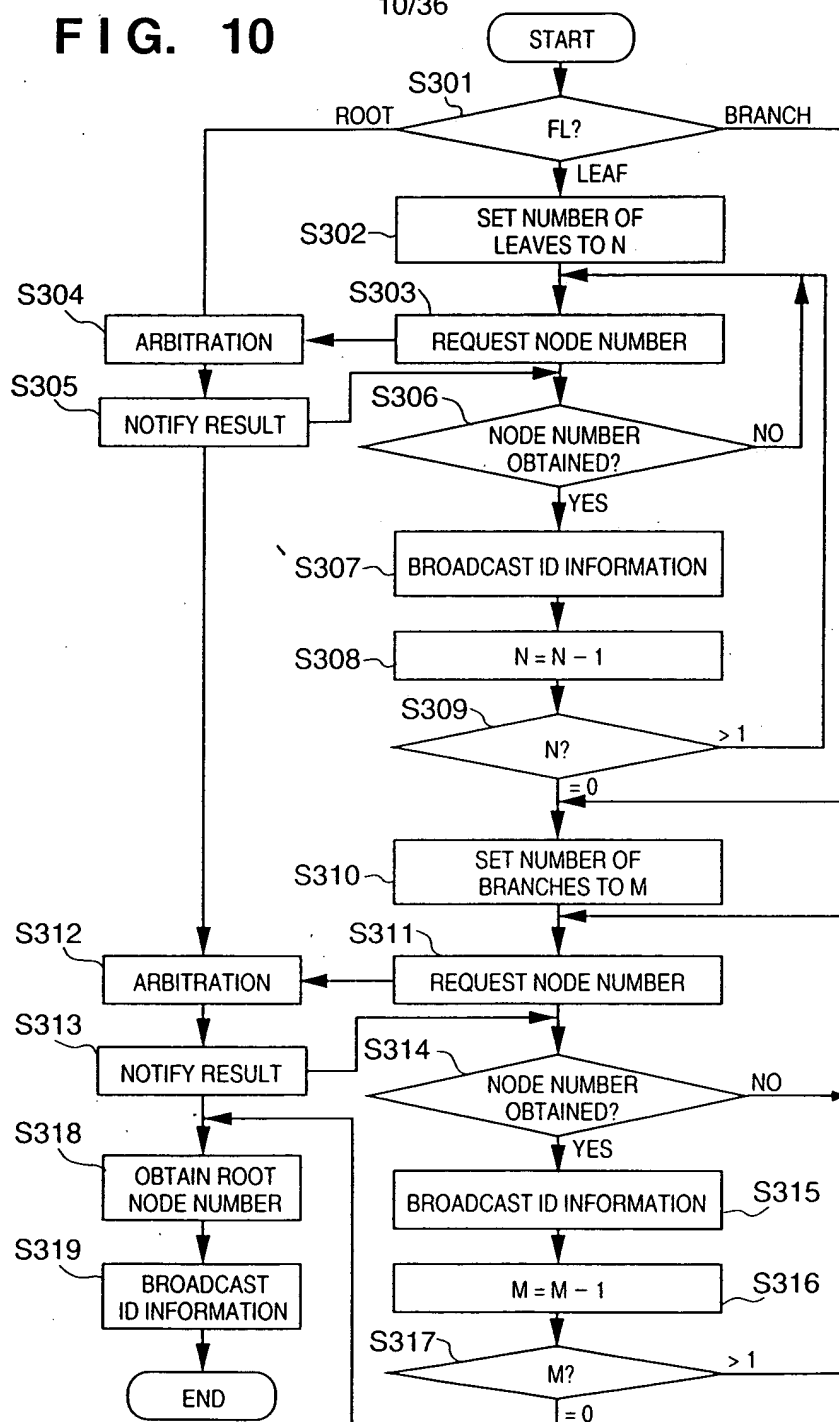
FIG. 9



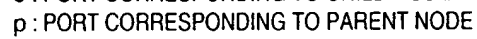
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FIG. 10

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FIG. 12
CSR CORE REGISTER

| OFFSET (hexadecimal) | REGISTER NAME | FUNCTION |
|-------------------------|--|---|
| 000 | STATE_CLEAR | INFORMATION ON STATUS AND CONTROL |
| 004 | STATE_SET | INFORMATION ON WRITE ENABLE/DISABLE STATUS OF STATE_CLEAR |
| 008 | NODE_IDS | BUS ID + NODE ID |
| 00C | RESET_START | TO RESET BUS BY WRITING INTO THIS AREA |
| 010-014 | INDIRECT_ADDRESS, INDIRECT_DATA | REGISTER TO ACCESS ROM AREA GREATER THAN 1KB |
| 018-01C | SPLIT_TIMEOUT | TIMER VALUE TO DETECT TIME-OUT OF SPLIT TRANSACTION |
| 020-02C | ARGUMENT, TEST_START, TEST_STATUS | REGISTER FOR DIAGNOSIS |
| 030-04C | UNITS_BASE, UNITS_BOUND, MEMORY_BASE, MEMORY_BOUND | NOT INSTALLED IN IEEE 1394 |
| 050-054 | INTERRUPT_TARGET, INTERRUPT_MASK | REGISTER OF INTERRUPTION NOTIFICATION |
| 058-07C | CLOCK_VALUE, CLOCK_TICK_PERIOD, CLOCK_STROBE_ARRIVED, CLOCK_INFO | NOT INSTALLED IN IEEE 1394 |
| 080-0FC | MESSAGE_REQUEST, MESSAGE_RESPONSE | REGISTER FOR MESSAGE NOTIFICATION |
| 100-17C | | RESERVATION |
| 180-1FC | ERROR_LOG_BUFFER | TO RESERVE FOR IEEE 1394 |

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FIG. 13
SERIAL BUS REGISTER

| OFFSET (hexadecimal) | REGISTER NAME | FUNCTION |
|-------------------------|---------------------|---|
| 200 | CYCLE_TIME | COUNTER FOR ISOCHRONOUS TRANSFER |
| 204 | BUS_TIME | REGISTER FOR TIME SYNCHRONIZATION |
| 208 | POWER_FAIL_IMMINENT | REGISTER RELATING TO POWER SUPPLY |
| 20C | POWER_SOURCE | |
| 210 | BUSY_TIMEOUT | TO CONTROL RETRY IN TRANSACTION LAYER |
| 214~218 | | RESERVATION |
| 21C | BUS_MANAGER_ID | NODE ID OF BUS MANAGER |
| 220 | BANDWIDTH_AVAILABLE | TO MANAGE ISOCHRONOUS TRANSFER BAND |
| 224~228 | CHANNELS_AVAILABLE | TO MANAGE CHANNEL NUMBER FOR ISOCHRONOUS TRANSFER |
| 22C | MAINT_CONTROL | REGISTER FOR DIAGNOSIS |
| 230 | MAINT_UTILITY | |
| 234~3FC | | RESERVATION |

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FIG. 14
SERIAL-BUS NODE RESOURCE REGISTER

| OFFSET (hexadecimal) | REGISTER NAME | FUNCTION |
|-------------------------|---------------|---|
| 800~FFC | | RESERVATION |
| 1000~13FC | TOPOLOGY-MAP | INFORMATION ON SERIAL BUS STRUCTURE |
| 1400~1FFC | | RESERVATION |
| 2000~2FFC | SPEED-MAP | INFORMATION ON TRANSFER SPEED OF SERIAL BUS |
| 3000~FFFC | | RESERVATION |

FIG. 15
MINIMUM FORMAT CONFIGURATION ROM

| | |
|----|-----------|
| 01 | VENDOR ID |
|----|-----------|

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FIG. 16

GENERAL FORMAT CONFIGURATION ROM

| LENGTH OF bus_info_block | LENGTH OF ROM | CRC |
|---|---------------|-----|
| bus_info_block (ASCII CODE OF 1394 BUS AND INFORMATION ON WHETHER OR NOT NODE HAS CAPABILITIES OF ISOSYNCHRONOUS RESOURCE MANAGEMENT, CYCLE MASTER, AND BUS MANAGEMENT) | | |
| root_directory (INDICATE VENDOR ID AND NODE FUNCTION) | | |
| unit_directories (INDICATE UNIT TYPE AND DRIVER SOFT VERSION) | | |
| root & unit_leaves | | |
| vendor_dependent_information | | |

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FIG. 17

REQUESTS FOR BUS ACCESS

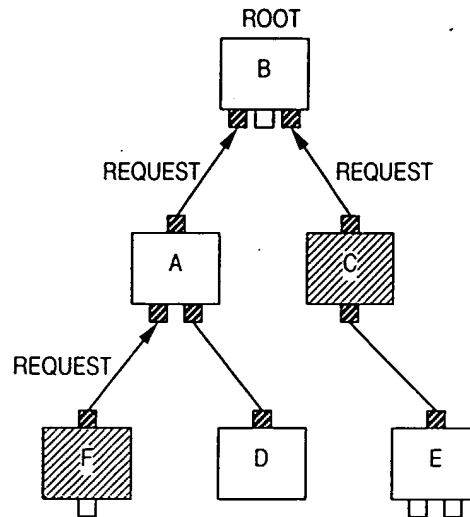
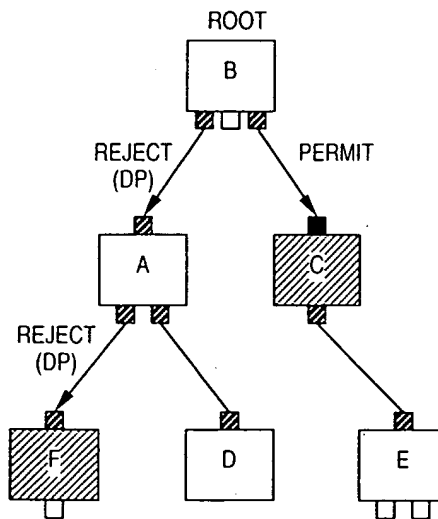
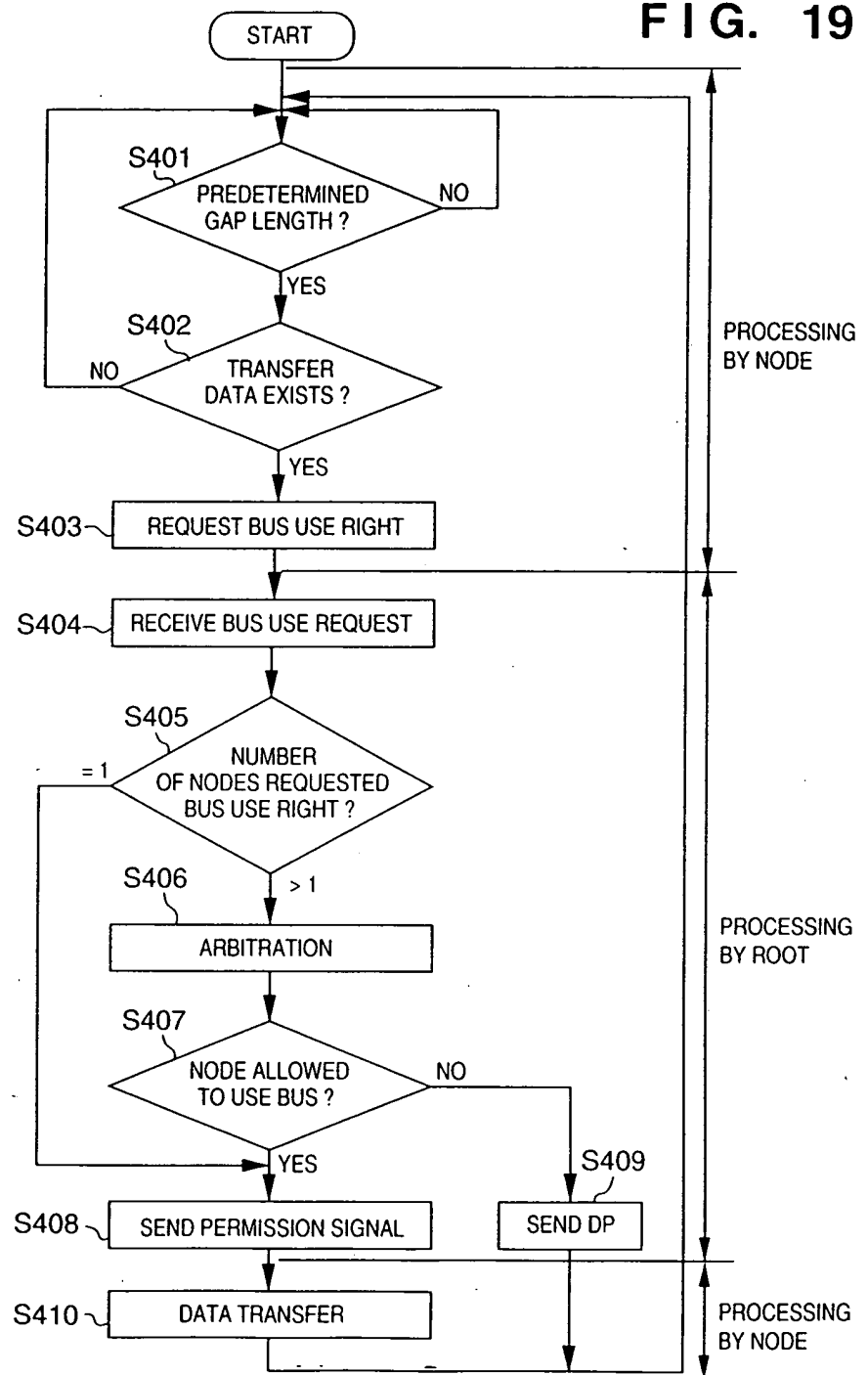


FIG. 18

BUS ACCESS GRANTED

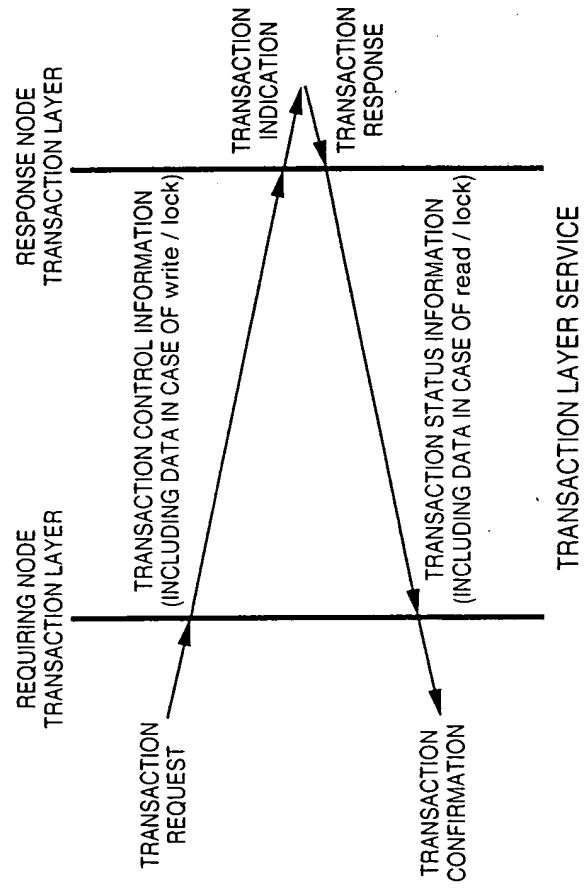


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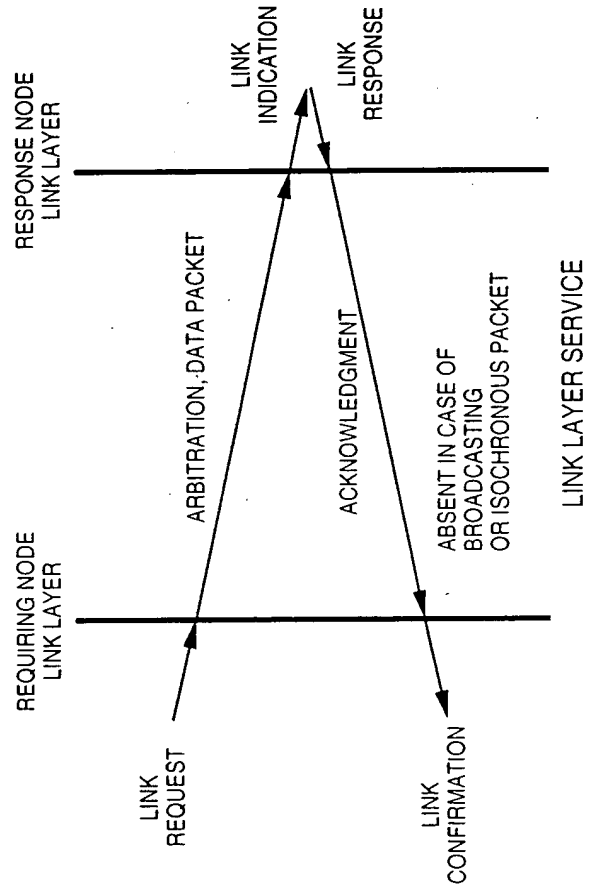
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FIG. 20



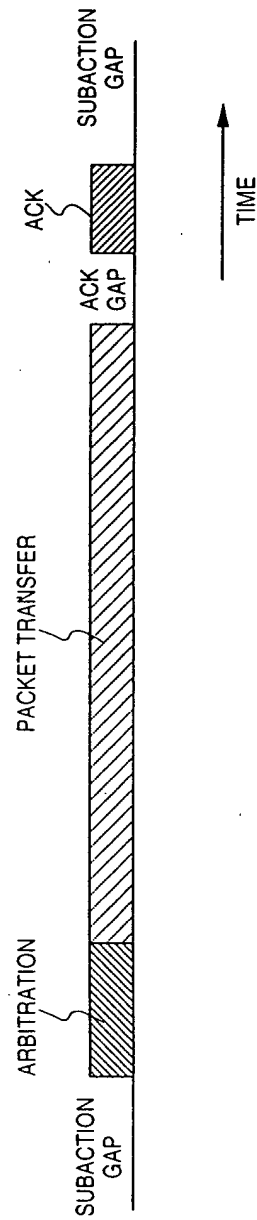
007E80" 66605960

FIG. 21



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FIG. 22



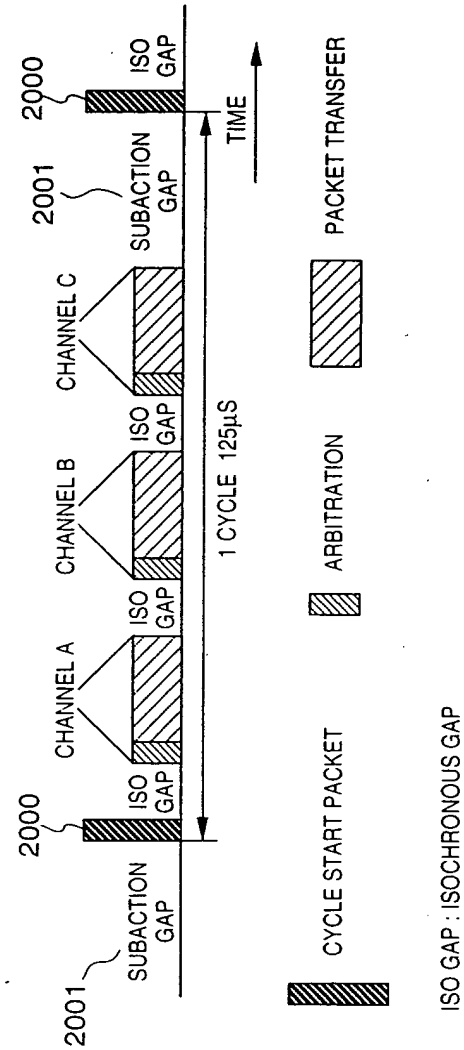
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FIG. 23

| | | | | |
|--------------------|----------------|----|-------|-----|
| destination_ID | t0 | rt | tcode | pri |
| source_ID | | | | |
| destination_offset | | | | |
| data_length | extended_tcode | | | |
| header_CRC | | | | |
| data_field | | | | |
| pad_field | | | | |
| data_CRC | | | | |

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FIG. 24



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FIG. 25

ISOCHRONOUS DATA PACKET

| data_length | | tag | channel | tcode | sy |
|-------------|--|-----|---------|-------|----|
| header_CRC | | | | | |
| data_field | | | | | |
| pad_field | | | | | |
| data_CRC | | | | | |

FIG. 26

| ABBREVIATION | NAME | CONTENT |
|--------------------|-------------------------------------|---|
| destination_ID | destination identifier | ID OF DESTINATION NODE (ASYNCHRONOUS ONLY) |
| tQ | transaction label | LABEL INDICATING A SERIES OF TRANSACTIONS (ASYNCHRONOUS ONLY) |
| rt | retry code | CODE INDICATING RETRANSMISSION STATUS (ASYNCHRONOUS ONLY) |
| tcode | transaction code | CODE INDICATING PACKET TYPE (ASYNCHRONOUS ONLY) |
| pri | priority | PRIORITY ORDER (ASYNCHRONOUS ONLY) |
| source_ID | source identifier | SOURCE NODE (ASYNCHRONOUS ONLY) |
| destination_offset | destination memory address | MEMORY ADDRESS OF DESTINATION NODE (ASYNCHRONOUS ONLY) |
| rcode | response code | RESPONSE STATUS (ASYNCHRONOUS ONLY) |
| quadiet_data | quadiet (4bytes) data | 4-BYTE LENGTH DATA (ASYNCHRONOUS ONLY) |
| data_length | length of data | LENGTH OF data_field (EXCEPT pad bytes) |
| extended_tcode | extended transaction code | EXTENDED TRANSACTION CODE (ASYNCHRONOUS ONLY) |
| chanel | isochronous identifier | IDENTIFICATION OF ISOCHRONOUS PACKET |
| sy | synchronization code | SYNCHRONIZATION OF VIDEO IMAGE AND AUDIO INFORMATION |
| cycle_time_data | contents of the CYCLE_TIME register | CYCLE TIMER REGISTER VALUE OF CYCLE MASTER NODE (CYCLE PACKET ONLY) |
| data_field | data + pad bytes | DATA STORAGE (ISOCHRONOUS AND ASYNCHRONOUS) |
| header_CRC | CRC for header field | CRC FOR HEADER |
| data_CRC | CRC for data field | CRC FOR DATA |
| tag | tag label | ISOCHRONOUS PACKET FORMAT |

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FIG. 27

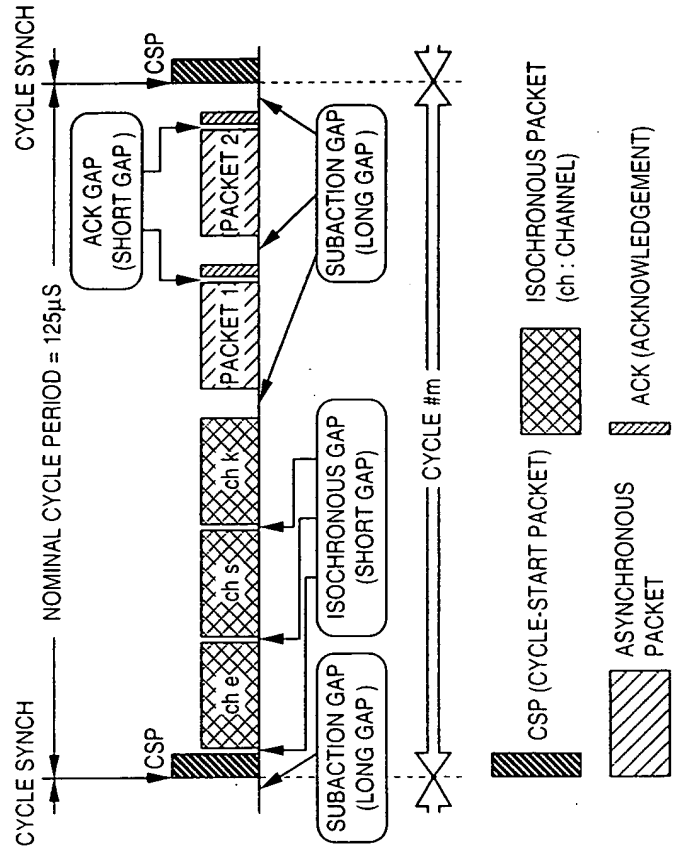
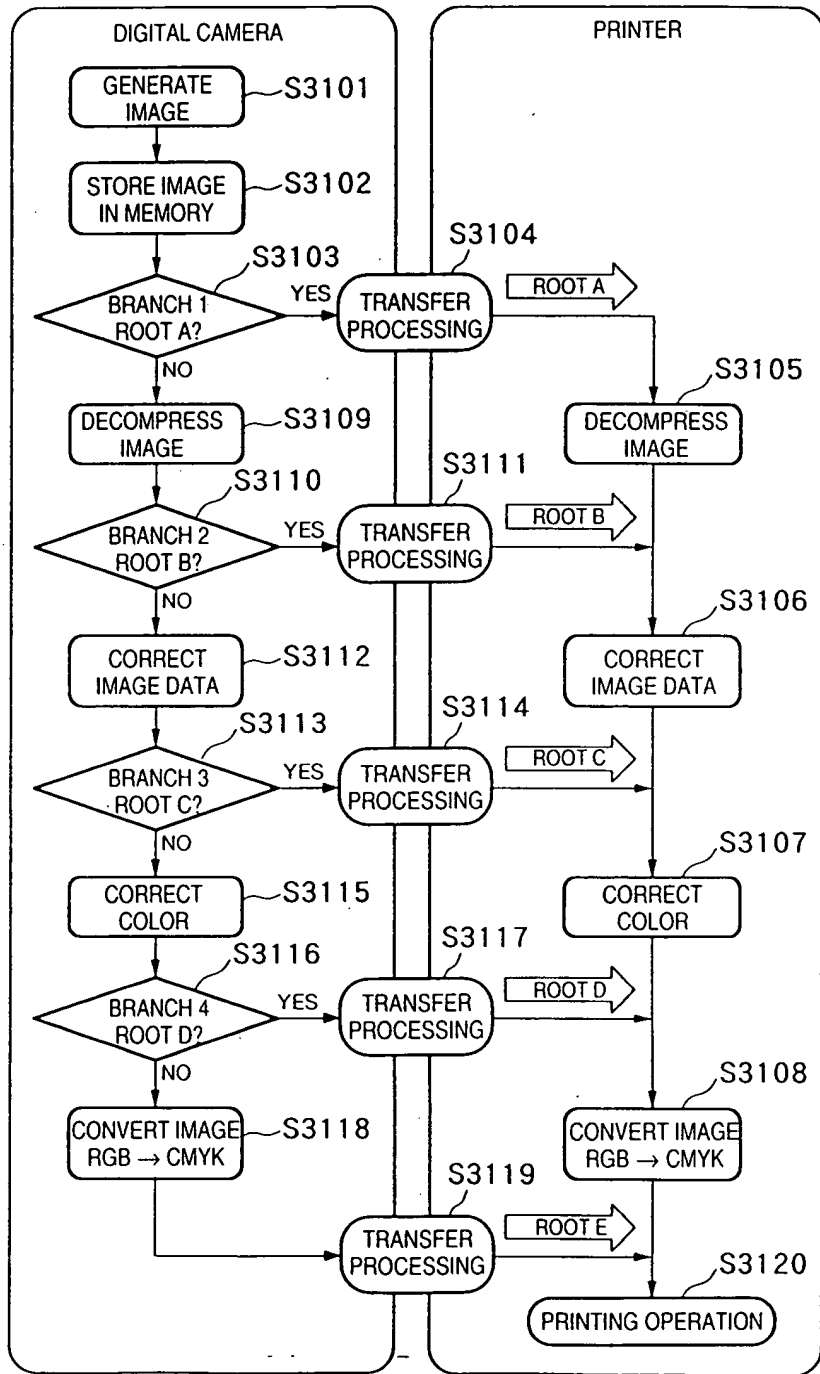
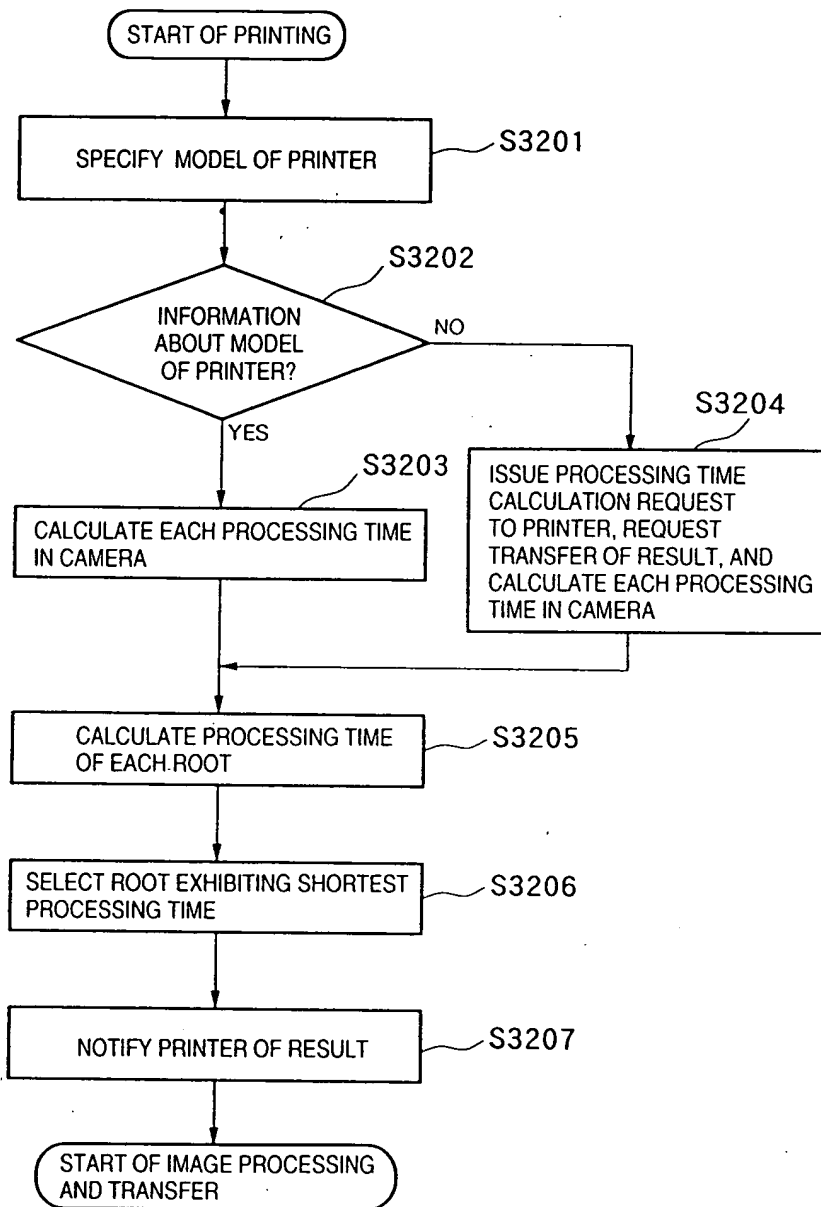


FIG. 28



00180" 66609960

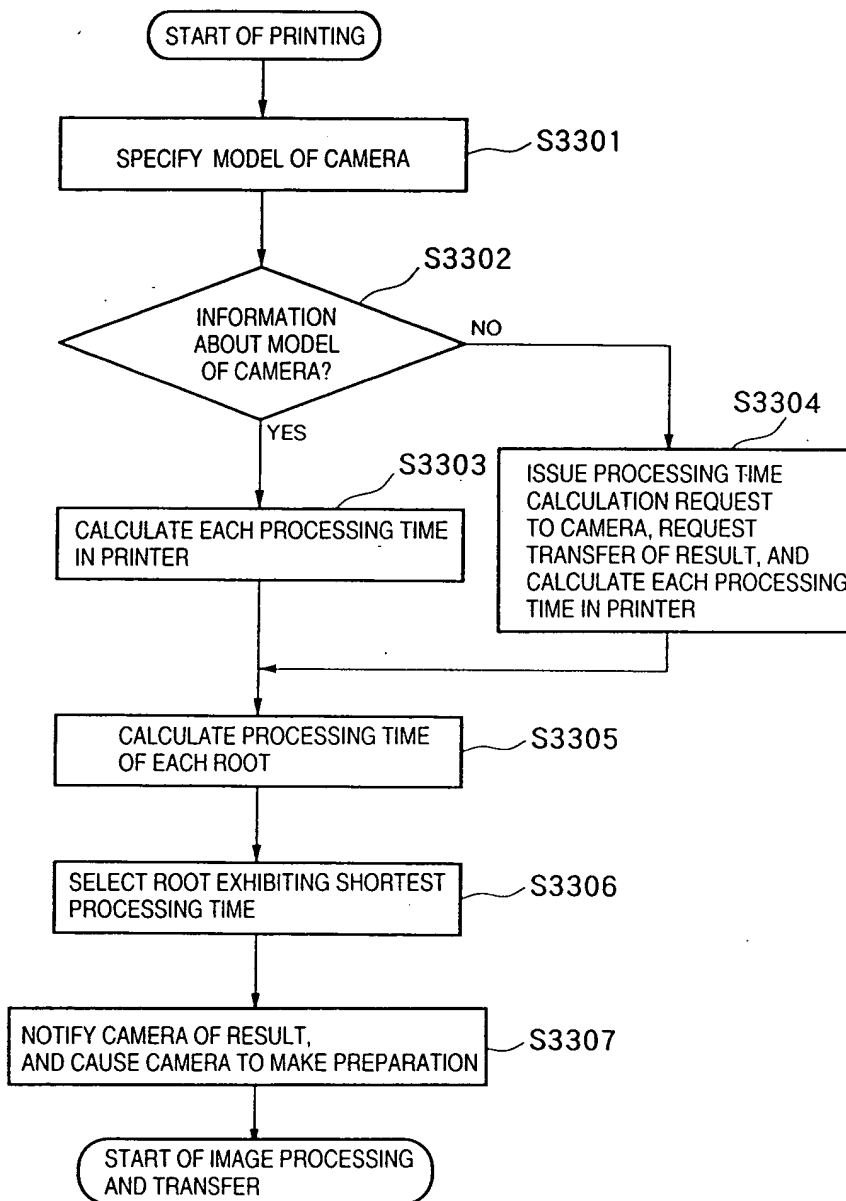
FIG. 29



005099-08100

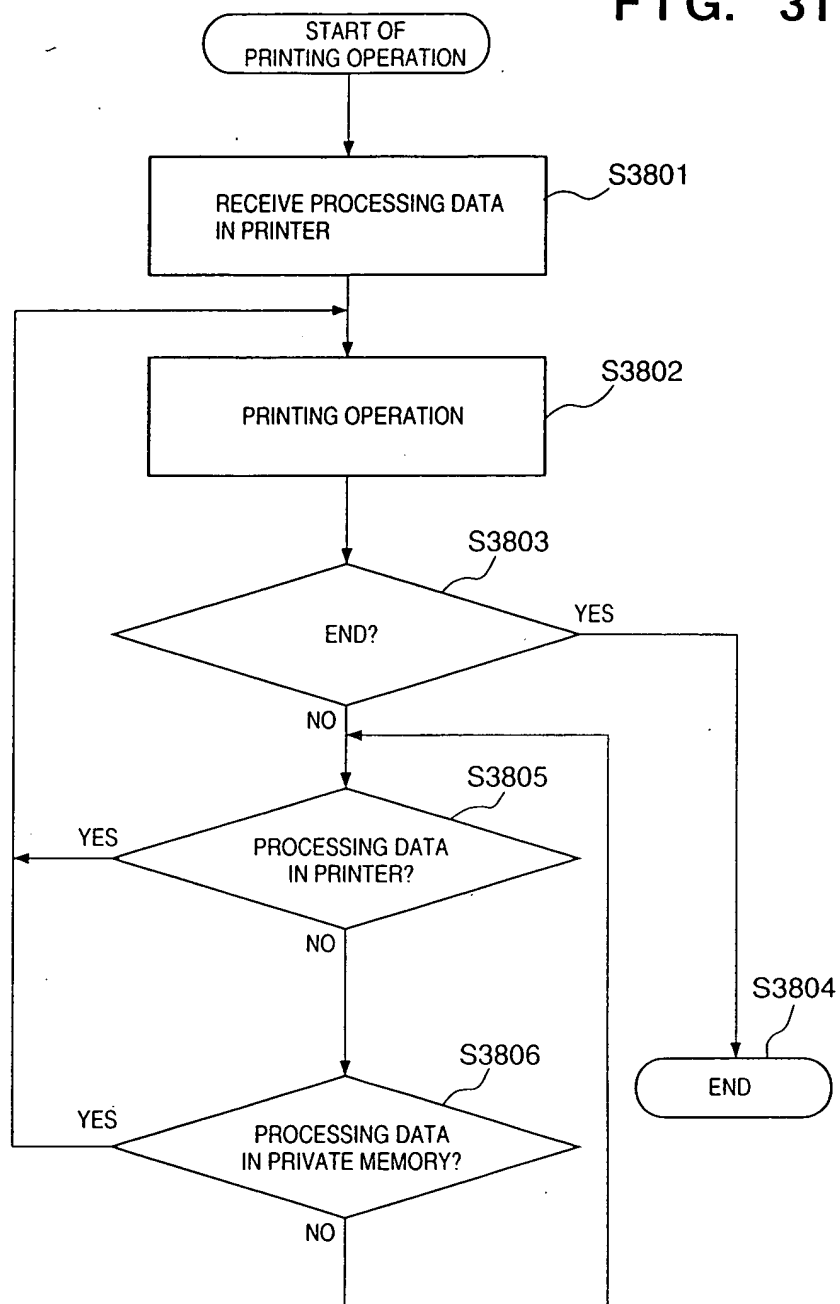
FIG. 30

00650999-083100



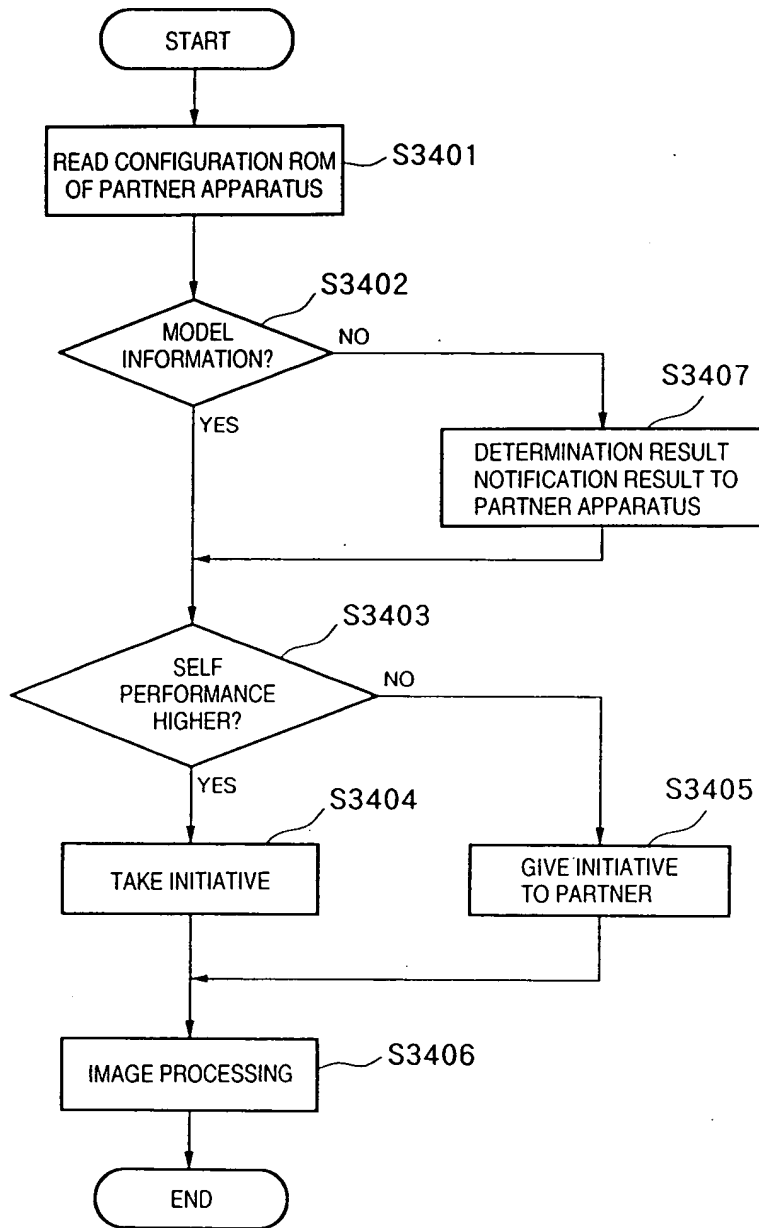
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FIG. 31



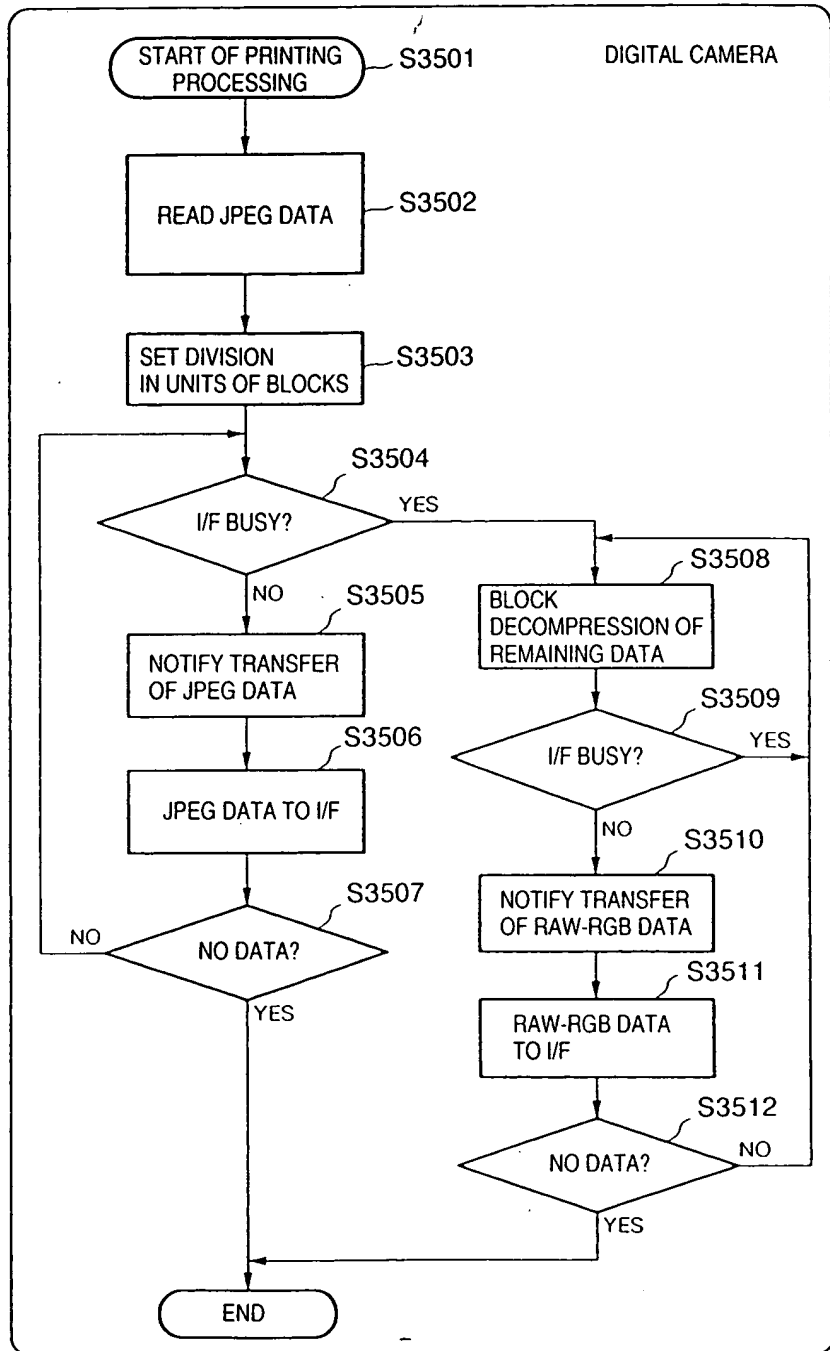
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FIG. 32



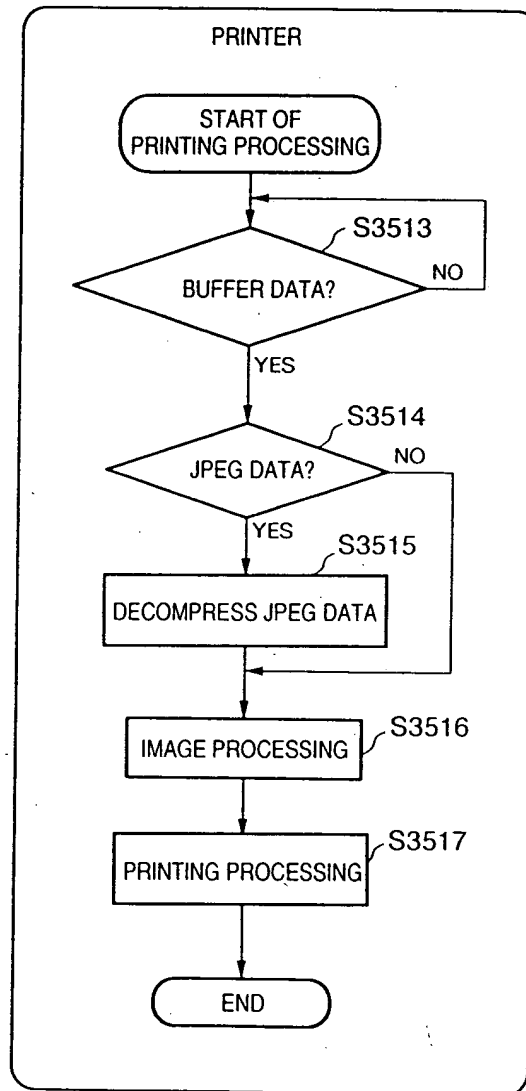
00180" 66605960

FIG. 33A



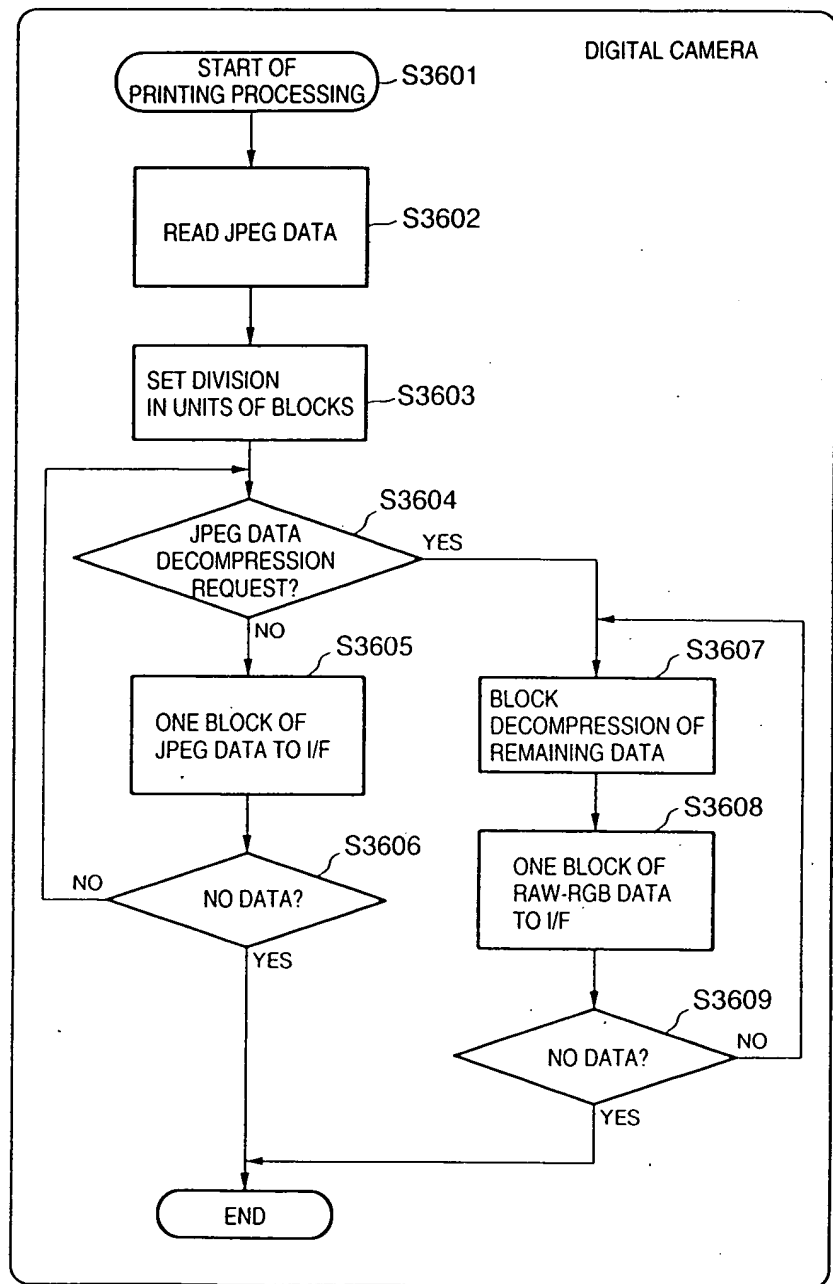
00180" 66605960

FIG. 33B



0965099.103100

FIG. 34A



001E80-66605960

001E80"66605960

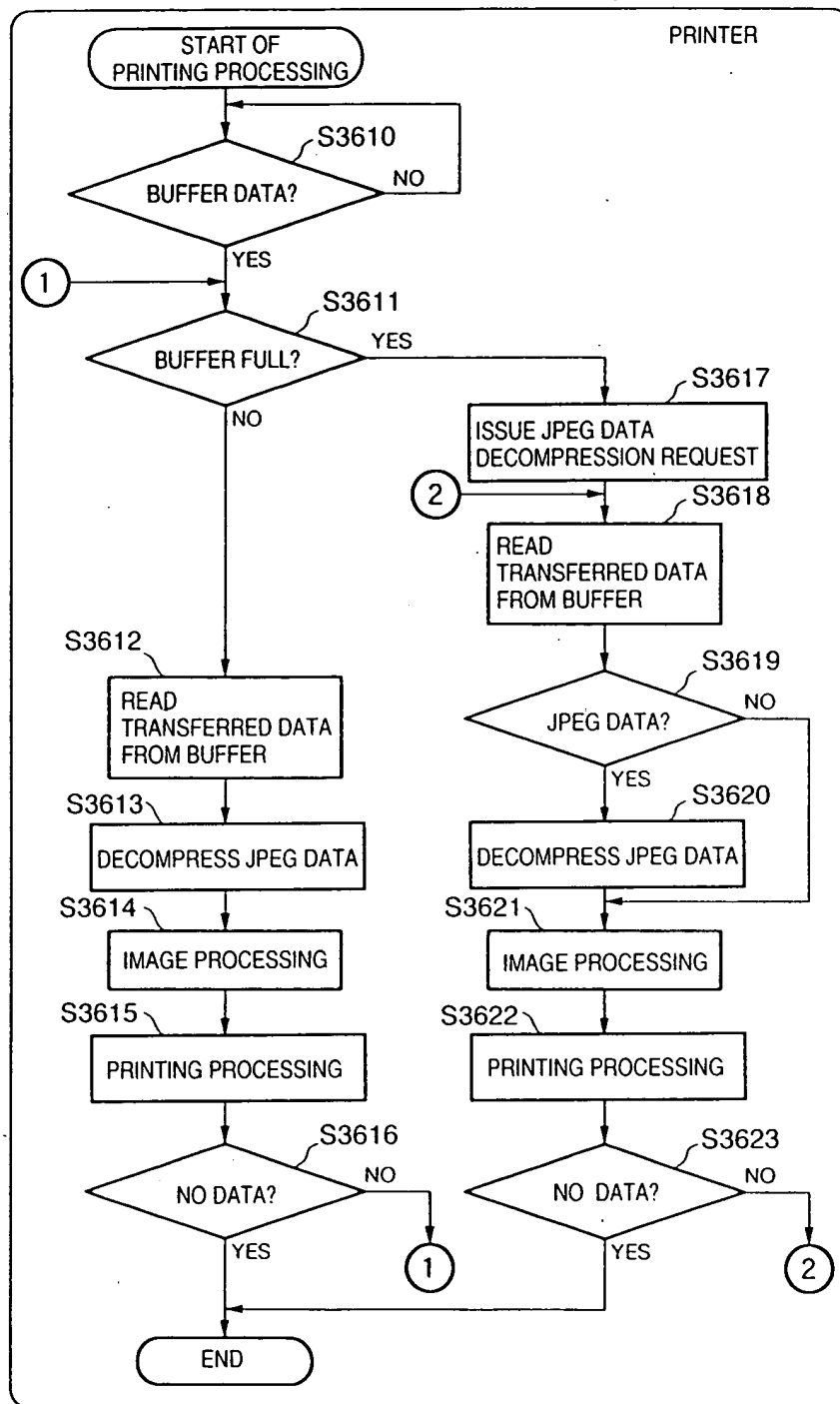
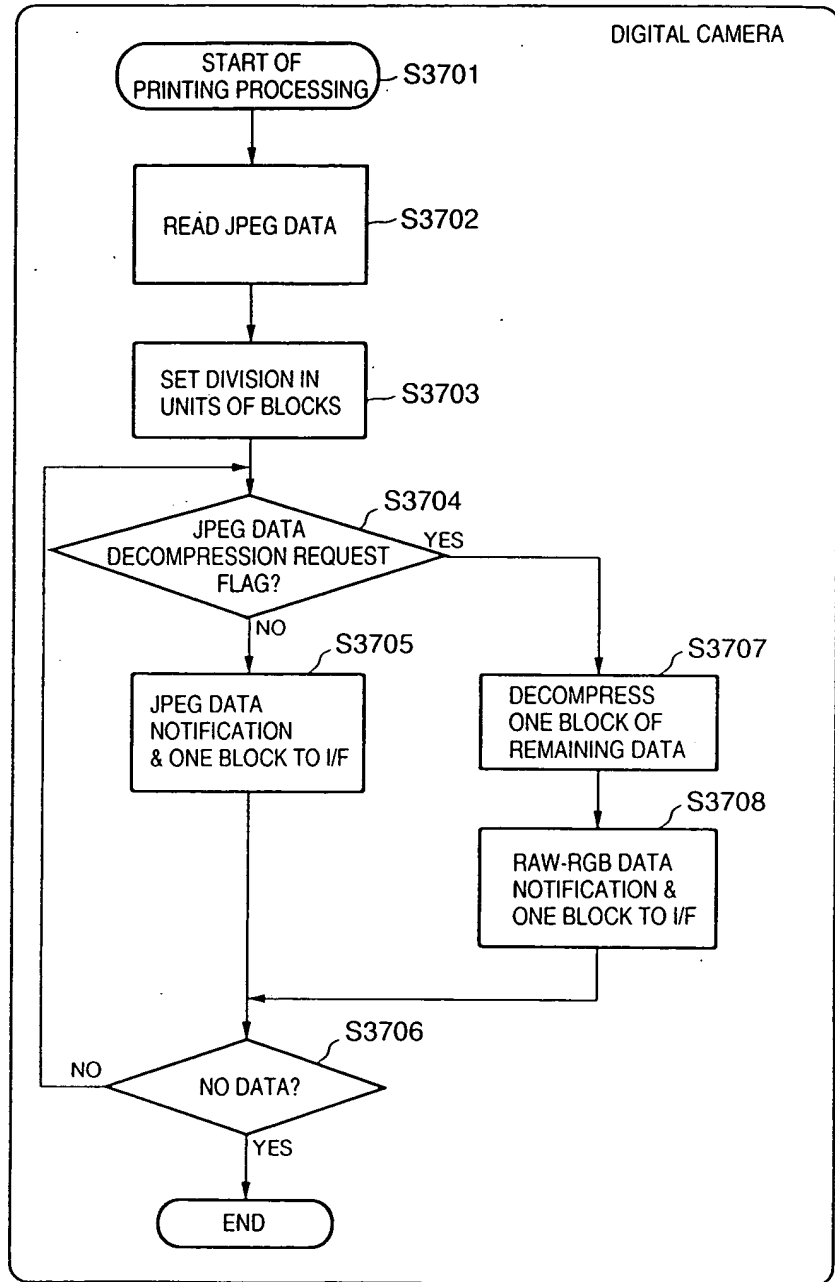


FIG. 35A



001E80'66605960

00650999-083400

